

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Paul J. Esatto, Jr. on 3/16/2010.

The application has been amended as follows:

1. (Currently Amended) A method for calibrating a medical system capable of generating a magnetic field for tracking a position of a medical device, the method comprising the steps of:

(a) generating a magnetic field;

~~(a)~~ (b) defining a mapping volume within the generated magnetic field;

~~(b)~~ (c) placing a metallic object within the mapping volume;

~~(c)~~ (d) aligning a sensor at a first point within the mapping volume and measuring the magnetic field at the first point with the sensor to establish a first coordinate position ( $X_i$ ,  $Y_i$ ,  $Z_i$ );

~~(d)~~ (e) moving the sensor to a next point ( $X_i + dx$ ,  $Y_i + dy$ ,  $Z_i + dz$ ) along one coordinate axis by an added distance component ( $dx$ ,  $dy$ ,  $dz$ ) and measuring the magnetic field at the next point to establish a next coordinate position;

~~(e)~~ (f) interpolating the magnetic field at an intermediate point between the first position and the next coordinate position to establish an interpolated intermediate coordinate position;

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- ~~(f)~~ (g) determining the position difference between the interpolated intermediate coordinate position and an actual intermediate coordinate position;
- ~~(g)~~ (h) comparing the position difference to an error limit;
- ~~(h)~~ (i) setting  $(X_i, Y_i, Z_i)$  of the next point as  $(X_i = X_i + dx, Y_i = Y_i + dy, Z_i = Z_i + dz)$  if the position difference is within the error limit and repeating steps ~~(d)~~ ~~(g)~~ (e) - (h) along another coordinate axis; and
- ~~(i)~~ (j) setting the added distance component  $(dx, dy, dz)$  by decreasing the value of the added distance component if the position difference is not within the error limit and repeating steps ~~(d)~~ ~~(g)~~ (e) - (h) along the same coordinate axis.

11. (Currently Amended) A method for calibrating a medical system capable of generating a magnetic field for tracking a position of a medical device, the method comprising the steps of:

- (a) generating a magnetic field;
- ~~(a)~~ (b) defining a mapping volume within the generated magnetic field;
- ~~(b)~~ (c) placing a metallic object within the mapping volume;
- ~~(c)~~ (d) aligning a sensor at a first point within the mapping volume and measuring the magnetic field at the first point with the sensor to establish a first coordinate position  $(X_i, Y_i, Z_i)$ ;
- ~~(d)~~ (e) extrapolating the magnetic field of a next point  $(X_i + dx, Y_i + dy, Z_i + dz)$  along one coordinate axis by an added distance component  $(dx, dy, dz)$ ;
- ~~(e)~~ (f) calculating the coordinate position at the extrapolated next point based on the extrapolated magnetic field to establish an extrapolated coordinate position;

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~~(f)~~ (g) determining the position difference between the extrapolated intermediate coordinate position and the actual coordinate position of the next point;

~~(g)~~ (h) comparing the position difference to an error limit;

~~(h)~~ (i) setting the added distance component (dx, dy, dz) according to a predetermined distance if the position difference is within the error limit, aligning the sensor at a new point with the mapping volume along another coordinate axis and measuring the magnetic field at the new point with the sensor to establish a new coordinate position and repeating steps ~~(d)~~—~~(g)~~ (e) - (h) along the other coordinate axis; and

~~(i)~~ (j) setting the added distance component (dx, dy, dz) by decreasing the value of the added distance component if the position difference is not within the error limit and establishing an intermediate point between the first point and the next point as the first position and repeating steps ~~(d)~~—~~(g)~~ (e) - (h) along the same coordinate axis.

The following is an examiner's statement of reasons for allowance: The prior art of record does not teach, nor fairly suggest a method of calibrating a medical system by generating a magnetic field, defining a volume within the field, placing a metallic object within the volume and providing calibration values based on the method as outlined in claims 1 and 11.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NASIR SHAHRESTANI whose telephone number is (571)270-1031. The examiner can normally be reached on Mon.-Thurs: 7:30-5:00, 2nd Friday: 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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